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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/345,969	07/01/1999	LAURENT FROUIN	1807.0651	1884

5514 7590 04/09/2003

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EXAMINER

LY, ANH VU H

ART UNIT PAPER NUMBER

2662

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/345,969

Applicant(s)

FROUIN, LAURENT

Examiner

Anh-Vu H Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on December 20, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 87-101,103,107,110,113-131,160,161 and 204 is/are allowed.
- 6) ☒ Claim(s) 1-12,14-16,20-46,48-59,61,69-83,111-112,132,135-151,162-187,189,199-202,205 and 206 is/are rejected.
- 7) ☒ Claim(s) See Continuation Sheet is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 20 December 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

U.S. Patent and Trademark Office
PTO-326 (Rev. 04-01)

Office Action Summary

Part of Paper No. 11

Continuation of Disposition of Claims: Claims pending in the application are 1-12,14-16,20-46,48-59,61,69-101,103,107,110-132,135-151,160-187,189 and 199-206.

Continuation of Disposition of Claims: Claims objected to are 8-12,14-16,20-22,26,27,29,30,33,34,38-46,48-50,54,55,57,58,84-86,178,183,186 and 187.

DETAILED ACTION

Response to Amendment

1. This communication is in response to applicant's amendment filed December 20, 2002. The proposed amendment to the claims has been entered. Claims 1-12, 14-16, 20-46, 48-59, 61, 69-101, 103, 107, 110-132, 135-151, 160-187, 189, 199-206 are pending.

Specification

2. The abstract of the disclosure is objected to because it included phraseology such as said in line 9. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-12, 14-16, 20-46, 48-59, 61, 69-70, 132, 135-151, 162-187, 189, 199-202, 205 and 206 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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With respect to claim 1, the limitation recited in line 3 and in line 9 “the path” and “the passband” lack antecedent basis.

With respect to claim 31, the limitation recited in line 7 “the passband” lacks antecedent basis.

With respect to claim 132, the limitation recited in line 15-16 “the source communication device” lacks antecedent basis.

With respect to claim 162, the limitation recited in line 2 “the path” lacks antecedent basis.

With respect to claim 175, the limitations recited in line 2 and in line 13-14 “the path” and “the source communication device” lack antecedent basis.

With respect to claim 203, the limitation recited in line 1-2 “the communication device” lacks antecedent basis.

Claims 2-12, 14-16, 20-30, 32-46, 48-59, 61, 69-70, 135-151, 163-174, 176-187, 189, 199-202, 205 and 206 are rejected upon the rejection of parent claims 1, 31, 132, 162 and 175.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-7, 23-25, 28, 31-32, 35-37, 51-53, 56, 59, 69-83, 111-112, 175-177, 179-182, 184-185, and 189, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin et al (US Patent No. 6,400,681) in view of Bertin et al (US Patent No. 5,940,372).

With respect to claims 1, 5, 35, 31, 59, 71-81, 83 175-177, 179-182, 184-185, and 189, US '681 discloses (col. 7, lines 30-44) that the network nodes provide ancillary services such as determination of routing paths (each communication device being adapted to determine, for each item of information which it has to transmit, the path to cause it to follow on the network), directory services like retrieving and updating information about network users and resources, maintaining of a consistent view of the physical network topology, including link utilization information, and reservation of resources at access points of the network.

US '681 discloses (col. 11, lines 45-67) that the connection setup and bandwidth reservation process, as shown in Fig. 1, comprises the following steps: a Connection Request is specified by the user via a set of parameters including origin and destination network address, and data flow characteristics such as bit rate and burstiness; a Path Selection process determines a path and a set of connection requests, one for each link of the path, using parameters provided by the Topology Database (memory resided in a node to store Topology Database); a Bandwidth Reservation process uses the connection requests to reserve bandwidth on each of the links of the path. This process involves exchange of information between the origin node, the transit nodes on the path, and the destination node; Bandwidth Reservation replies from transit nodes and end node generate either a call acceptance or a call reject; a Link metric Update process updates, in case of call acceptance, the modified link metrics. This information is sent through the Control Spanning Tree to the Topology Database of each node in the network by means of a broadcast

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algorithm (for each communication device which is to effect a transmission in connected mode, an information operation during which communication device broadcasts to all other communication devices in the network, an item of information representing the passband necessary for transmission in connected mode); a Congestion Control Setup adjusts, if the call is accepted, the network connection characteristics.

US '681 does not disclose an operation of allocating a passband, on one hand, to the transmission in connected mode, and on other hand, all or part of the passband available to each transmission to be effected in non-connected mode.

US '372 discloses (col. 14, lines 29-43) that because the data profile over the connections is bursty and non deterministic, reserved traffic does not lead to a full links utilization except on peaks. Therefore, non-reserved traffic can be transmitted when some bandwidth is available on the links (all or part of the passband available). The purpose of an efficient bandwidth management is to reserve on the links as much bandwidth as possible with a guaranteed quality of service (allocating passband to transmission in connected mode), and to use the inherent remaining bandwidth to transport traffic from users who are expecting a "best effort" service (allocating all or part of the passband to transmission in non-connected mode).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include an efficient bandwidth management in US '681's system, as suggested US '372, to maximize bandwidth efficiency.

With respect to claims 2 and 32, the limitation "an operation of transmitting to each communication device placed on said path, referred to as "intermediate", an item of information

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representing the passband necessary for said connection” is addressed in the rejection of parent claim 1. Wherein, US ‘681 discloses that a Link metric Update process updates, in case of call acceptance, the modified link metrics. This information is sent through the Control Spanning Tree to the Topology Database of each node in the network by means of a broadcast algorithm.

The limitation “effected by each intermediate communication device on said path, an operation of determining the availability of the link leading to the following communication device on said path, in the event of unavailability, an operation of transmitting to the source, an item of information representing the unavailability of said path” is addressed in the rejection of parent claim 1. Wherein, US ‘681 discloses that a Path Selection process determines a path and a set of connection requests, one for each link of the path, using parameters provided by the Topology Database; a Bandwidth Reservation process uses the connection requests to reserve bandwidth on each of the links of the path. This process involves exchange of information (an operation of determining the availability of the link) between the origin node, the transit nodes on the path (intermediate nodes), and the destination node; Bandwidth Reservation replies from transit nodes and end node generate either a call acceptance or a call reject (an operation of transmitting to the source, an item of information representing the unavailability of said path).

With respect to claim 3, the limitation “for each transmission of information, a flow control operation performed by each of the intermediate communication devices on the path followed by said information” is addressed in the rejection of parent claim 1. Wherein, US ‘681 discloses that a Congestion Control Setup adjusts, if the call is accepted, the network connection characteristics (including source, destination, and transit nodes).

With respect to claims 4 and 82, US '681 discloses that a Congestion Control Setup adjusts the network connection characteristics once the call is accepted. US '681 does not disclose that flow control operation is performed in accordance with IEEE 1355. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adopt a method of flow control operation in accordance with IEEE 1355 in US '681 systems, since IEEE 1355 is a well-known standard.

With respect to claims 6 and 36, the limitation "an information transmission operation taking several priority levels into account" is addressed in the rejection of parent claim 1. Wherein, US '681 discloses that a Connection Request is specified by the user via a set of parameters including origin and destination network address, and data flow characteristics such as bit rate and burstiness (priority levels).

With respect to claims 7 and 37, US '681 discloses a method for minimizing the connection setup time in high-speed packet switching networks. US '681 does not disclose that a priority level is allocated to transmission in non-connected mode. US '372 discloses (col. 14, lines 23-26) that the lowest delay priority (a priority level) is assigned to non-reserved traffic and the networks drop non-reserved packets when their buffer overflow at intermediate links. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a method of assigning lowest delay priority to non-reserved traffic in US '681's

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system, as suggested by US '372, since path transfer delay and loss probability are not part of the quality of service guaranteed to non-reserved connections.

With respect to claims 23 and 51, US '681 discloses a method for minimizing the connection setup time in high-speed packet switching networks. US '681 does not disclose that real-time traffic, predictive or guaranteed, is transmitted in connected mode. However, real-time traffic transmitted in a connected mode is well known in the art, such as voice transmission, wherein, high transfer delay is not accepted. It would have been obvious to one having ordinary skill in the art at the time the invention was made to transmit real-time traffic in connected mode in US '681 system, since high transfer delay is not accepted.

With respect to claims 24 and 52, US '681 discloses a method for minimizing the connection setup time in high-speed packet switching networks. US '681 does not disclose that elastic traffic is transmitted in non-connected mode. However, elastic traffic transmitted in non-connected mode is well known in the art, such as data downloading from Internet, wherein no bandwidth or channel is setup for transmission between server and client. It would have been obvious to one having ordinary skill in the art at the time the invention was made to transmit elastic traffic in non-connected mode in US '681 system, since elastic traffic can adapt to changes in transmission conditions.

With respect to claims 25 and 53, the limitation recited in claims 25, 53, 78, and 94 is addressed in the rejection of parent claims 1 and 31. Wherein, US '681 discloses that a Bandwidth Reservation process uses the connection requests to reserve bandwidth on each of the

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links of the path. This process involves exchange of information between the origin node, the transit nodes on the path (checking operation), and the destination node; Bandwidth Reservation replies from transit nodes and end node generate either a call acceptance or a call reject.

With respect to claim 28, US '681 discloses a method for establishing a connection and bandwidth reservation process in high-speed packet switching networks (each communication device effects each information transmission by packet switching).

With respect to claim 56, US '681 discloses (col. 7, lines 49-53) that the interpretation of the users protocols, the translation of the users data into packets formatted appropriately for their transmission on the packet network and the generation of a header to route these packets are executed by an Access Agent running in the Port (each communication device is adapted to implement a protocol for the transmission of information by packet switching).

With respect to claim 59, US '681 discloses that a Path Selection process determines a path and a set of connection requests, one for each link of the path, using parameters provided by the Topology Database. There must be a memory for storing Topology Database in each node (a memory adapted to store a load table containing information relating to the load on each link in the network).

With respect to claims 69 and 111, the limitation "an information storage means which can be read by a computer or a microprocessor storing instructions of a computer program,

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characterized in that it allows the implementation of a communication method” is addressed by US ‘681. Wherein, US ‘681 discloses a connection setup and bandwidth reservation process for connected connection. In order to carry out such connection setup and bandwidth reservation process, the source node must be instructed to implement such process by a program stored in its local memory.

With respect to claims 70 and 112, US ‘681 discloses a method for minimizing the connection setup time in high-speed packet switching networks. US ‘681 does not disclose an information storage means which is removable, partially or totally. However, an information storage means, which is removable, partially, or totally is well known in the art, such as zip drive, which is removable. Further, the limitation “and which can be read by a computer or a microprocessor storing instructions of a computer program, characterized in that it allows the implementation of a communication method” is implicitly addressed by US ‘681. Wherein, US ‘681 discloses a connection setup and bandwidth reservation process for connected connection. In order to carry out such connection setup and bandwidth reservation process, the source node must be instructed to implement such process by a program stored in its local memory. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a removable storage means for storing instructions of a computer program in US ‘681, since removable storage means are flexible to carry around.

5. Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin et al (US Patent No. 6,400,681) in view of Bertin et al (US Patent No. 5,940,372) and further in view of

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Ogino et al (US Patent No. 6,038,625). Hereinafter, referred to as Bertin's 681, Bertin's 372 and Ogino.

With respect to claim 61, Bertin's 681 discloses a method for minimizing the connection setup time in high-speed packet switching networks.

Bertin's 681 does not disclose a computer, a television receiver, and an audio/video reader, characterize in that it has a communication device according to claim 31.

Ogino discloses in Fig. 1 that several consumer electronics products, e.g., television, VCR, tuner, set-top box, DVTRs, PCs, DVD players, etc., can be coupled within the network to communicate together via a standard bus, e.g., IEEE 1394 serial communication bus.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine, adapt and include the teachings of Bertin's 681 and Ogino's, bandwidth reservation process in high-speed packet switching networks, in the consumer electronics products, which coupled together via IEEE 1394 serial communication bus, for connecting and reserving bandwidth for communications between devices.

Allowable Subject Matter

6. Claims 8-12, 14-16, 20-22, 26-27, 29-30, 33-34, 38-46, 48-50, 54-55, 57-58, 84-86, 178, 183, 186-187 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 87-101, 103, 107, 110-131, 160-161, and 204 are allowed.

Response to Arguments

7. Applicant's arguments filed 12/20/ 2002 have been fully considered but they are not persuasive.

Applicant argues on page 48-49 that the combination of teachings of Bertin' 681 and Bertin's 372 fails to address the limitation of allocating a passband, during which there is allocated, on the one hand, to the transmissions in the connected mode, the passband which is necessary to them, and on the other hand, all or part of the passband available to each transmission to be effected in the non-connected mode. Examiner respectfully disagrees, the combination of teachings of Bertin's 681 and Bertin's 372 does teach such limitation, please refer to the rejections of claims 1 and 31 stated above.

Applicant further argues on page 49, line 16-18, to control the flow of data within the network in order to avoid congestion by adjusting the bandwidth allocated to non-connected mode transmissions. Applicant's argument is not corresponded to the claimed limitations. Claims 1 and 31 do not recite a method of avoiding congestion by adjusting the bandwidth allocated to non-connected mode transmissions.

Applicant argues on page 51, line 7-14, that, according to Bertin's 372, the connectionless routing modes are quite efficient to route packets that do not require any reservation nor quality service and connectionless routing suits non-reserved traffic requirements. Applicant later argues on page 51, line 23 – page 52, line 4, that Bertin's 372 applies only to connected mode transmission, and this mode of transmission deals with the routing of data traffic for which bandwidth is reserved and data traffic for which bandwidth is not reserved. As noticed above, applicant states that the connectionless routing suits non-

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reserved traffic requirements according to Bertin's 372 but then applicant argues that non-reserved traffic applies only to connected mode transmission.

Applicant argues on page 52, line 5-9, nothing has been found in Bertin's 372 that teaches or suggests and information operation during ... transmissions in connected mode broadcasts, to all for the transmission in connected mode, as recited in claim 1 of the present invention. All such limitations argued by applicant are addressed by Bertin's 681.

Applicant argues on page 53, line 1-5, controlling the flow of data within the network in order to avoid congestion thereby adjusting the bandwidth allocated to non-connected mode transmissions. Applicant's argument is not corresponded to the claimed limitations. Claims 1 and 31 do not recite a method of avoiding congestion by adjusting the bandwidth allocated to non-connected mode transmissions.

Applicant argues on page 58, line 5-9, that Bertin's 681 nor Bertin's 372 fails to teach or suggest a device is adapted to include an item of information representing an application requirement for the transmission in connected mode in the request to establish a connection. Examiner respectfully disagrees, US '681 discloses (col. 11, lines 45-67) that a Connection Request is specified by the user via a set of parameters including origin and destination network address, and data flow characteristics such as bit rate and burstiness (application requirement).

Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H Ly whose telephone number is 703-306-5675. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

av

April 7, 2003



HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600